

IN THE CLAIMS:

Please amend Claim 1 as follows:

1. (Currently amended) A system that evaluates movement of a body relative to an environment, said system comprising:

a sensor, associable with said body, that senses accelerative phenomena of said body relative to a three dimensional frame of reference in said environment, said sensor comprising a plurality of acceleration measuring devices; [[and]]

a processor, associated with said sensor, that processes said sensed accelerative phenomena of said body as a function of at least one accelerative event characteristic to thereby determine whether said evaluated body movement is within an environmental tolerance, and to thereby determine whether said body has experienced acceleration that represents one of a plurality of different types of motion[[]]; and

a controller containing said processor, said controller capable of receiving from said plurality of acceleration measuring devices a plurality of values of acceleration of body motion.

Claims 2-38 have been previously cancelled.

2-38 (Cancelled).

Please add new Claims 39-57 as follows:

39. (New) The system as set forth in Claim 1 wherein one of said plurality of different types of motion is one of: no motion, a successful attempt to change position, an unsuccessful attempt to change position, a motion of a body moving with a gait, a motion of a body moving with a gait associated with a disability, a swaying motion, a near fall, and a fall.

40. (New) The system as set forth in Claim 1 wherein said controller is capable of using values of acceleration of body motion measured in a plurality of directions to calculate a plurality of values of distance components of said body motion in said plurality of directions.

41. (New) The system as set forth in Claim 40 wherein said controller is capable of comparing a set of coordinate components that represents a measurement of said body motion to each of a plurality of prerecorded sets of coordinate components in which each set of said plurality of sets of coordinate components represents a type of motion.

42. (New) The system as set forth in Claim 41 wherein one of said plurality of prerecorded sets of coordinate components represents one of: no motion, a successful attempt to change position, an unsuccessful attempt to change position, a motion of a body moving with a gait, a motion of a body moving with a gait associated with a disability, a swaying motion, a near fall, and a fall.

43. (New) The system as set forth in Claim 41 wherein said set of coordinate components comprises one of: a set of x, y, z coordinate components and a set of spherical polar coordinate components.

44. (New) The system as set forth in Claim 42 wherein said controller is capable of identifying a match between a set of coordinate components that represents a measurement of said body motion with one of a plurality of said prerecorded sets of coordinate components to identify a type of motion that corresponds to said body motion.

45. (New) The system as set forth in Claim 44 wherein after identifying said type of motion said controller sends an alarm signal indicative of said type of motion.

46. (New) The system as set forth in Claim 40 wherein said controller is capable of calculating a value of a static acceleration vector from said plurality of values of distance components of said body motion.

47. (New) The system as set forth in Claim 46 wherein said controller is capable of determining when said value of said static acceleration vector reaches a value less than the acceleration of gravity indicative of a fall; and wherein said controller is capable of determining a rate at which said value of said static acceleration vector increases after the value of said static acceleration vector has reached a value less than the acceleration of gravity indicative of a fall; and wherein said controller is capable of using said rate of increase of said value of said static acceleration vector to determine whether said controller was connected to a body during a fall that caused the value of said static acceleration vector to reach a value less than the acceleration of gravity.

48. (New) A method of operating a system to evaluate movement of a body relative to an environment, said method of operation comprising the steps of:

sensing, with a sensor associated with said body, accelerative phenomena of said body relative to a three dimensional frame of reference in said environment, wherein said sensor comprises a plurality of acceleration measuring devices;

processing, with a processor associated with said sensor, repeatedly sensed dynamic and static accelerative phenomena of said body as a function of at least one accelerative event characteristic to thereby determine whether said evaluated body movement is within an environmental tolerance;

determining whether said body has experienced acceleration that represents one of a plurality of different types of motion; and

receiving in a controller containing said processor a plurality of values of acceleration of body motion from said plurality of acceleration measuring devices of said sensor.

49. (New) The method as set forth in Claim 48 wherein one of said plurality of different types of motion is one of: no motion, a successful attempt to change position, an unsuccessful attempt to change position, a motion of a body moving with a gait, a motion of a body moving with a gait associated with a disability, a swaying motion, a near fall, and a fall.

50. (New) The method as set forth in Claim 48 further comprising the step of:
calculating in said controller a plurality of values of distance components of said body motion from said values of acceleration of body motion measured in a plurality of directions.

51. (New) The method as set forth in Claim 50 further comprising the step of:
comparing in said controller a set of coordinate components that represents a measurement of said body motion to each of a plurality of prerecorded sets of coordinate components in which each set of said plurality of sets of coordinate components represents a type of motion.

52. (New) The method as set forth in Claim 51 wherein one of said plurality of prerecorded sets of coordinate components represents one of: no motion, a successful attempt to change position, an unsuccessful attempt to change position, a motion of a body moving with a gait, a motion of a body moving with a gait associated with a disability, a swaying motion, a near fall, and a fall.

53. (New) The method as set forth in Claim 51 wherein said set of coordinate components comprises one of: a set of x, y, z coordinate components and a set of spherical polar coordinate components.

54. (New) The method as set forth in Claim 52 further comprising the steps of:

identifying in said controller a match between a set of coordinate components that represents a measurement of said body motion with one of a plurality of said prerecorded sets of coordinate components; and

identifying a type of motion that corresponds to said body motion.

55. (New) The method as set forth in Claim 54 further comprising the step of:

sending an alarm signal from said controller indicative of said type of motion after said type of motion has been identified.

56. (New) The method as set forth in Claim 50 further comprising the step of:

calculating in said controller a value of a static acceleration vector from said plurality of values of distance components of said body motion.

57. (New) The method as set forth in Claim 56 further comprising the steps of:

determining in said controller when said value of said static acceleration vector reaches a value less than the acceleration of gravity indicative of a fall;

determining in said controller a rate at which said value of said static acceleration vector increases after the value of said static acceleration vector has reached a value less than the acceleration of gravity indicative of a fall; and

using said rate of increase of said value of said static acceleration vector to determine in said controller whether said controller was connected to a body during a fall that caused the value of said static acceleration vector to reach a value less than the acceleration of gravity.